

Figure 1

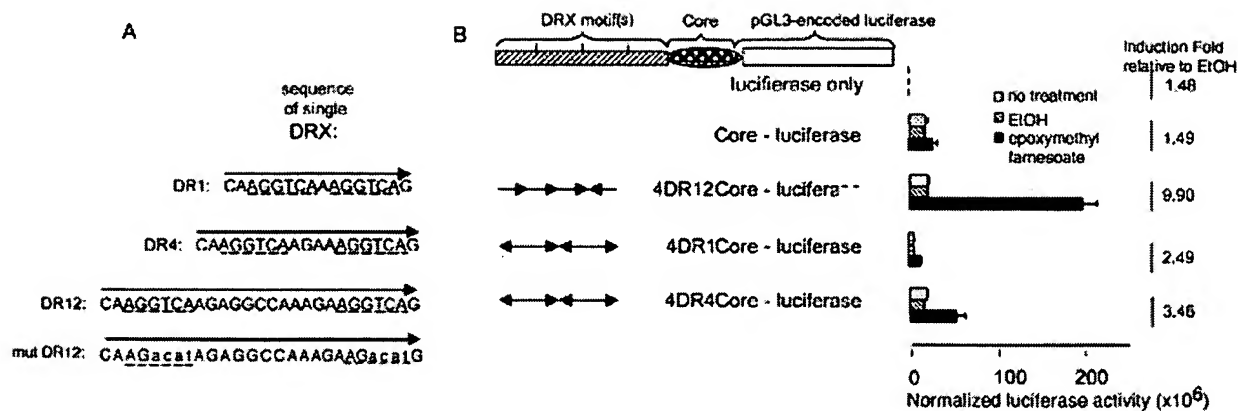
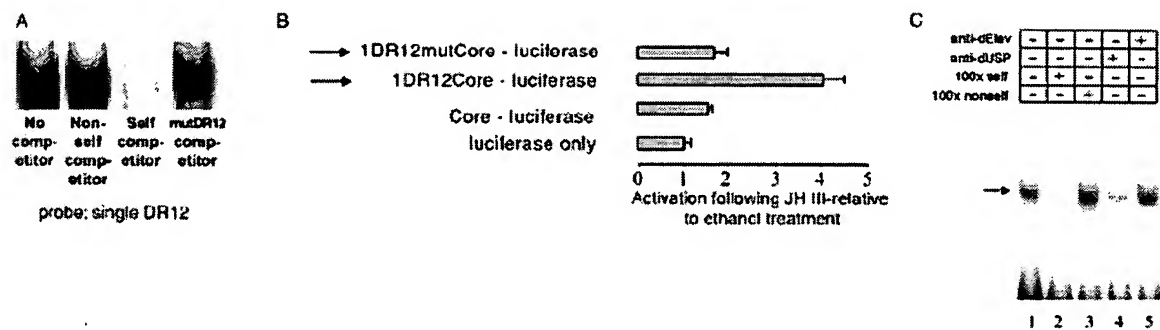
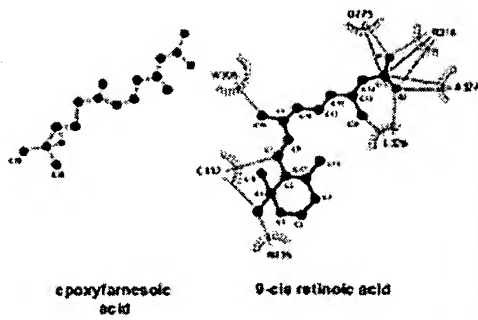


Figure 2

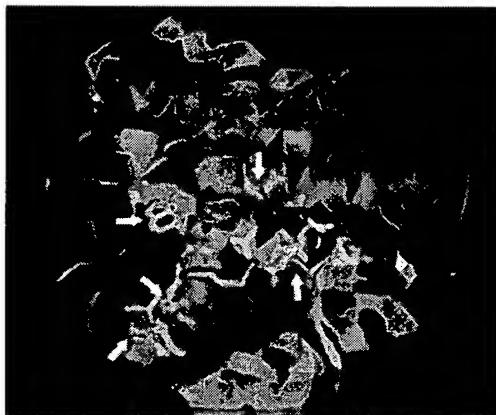
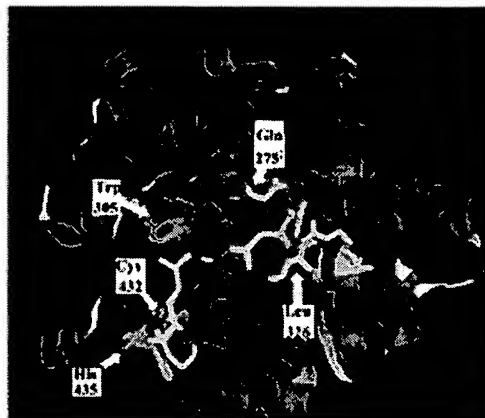


# Figure 3

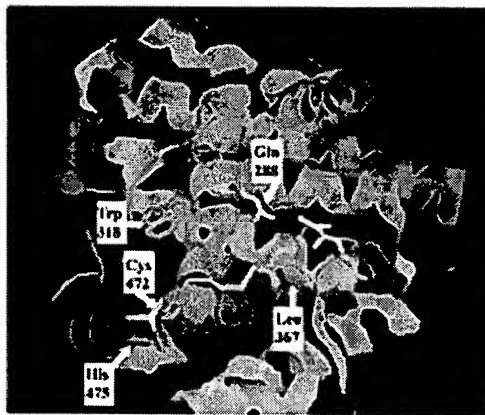
Panel A



Panel B - human RXR $\alpha$



Panel D - Overlay



Panel C - *Drosophila* USP

Figure 4

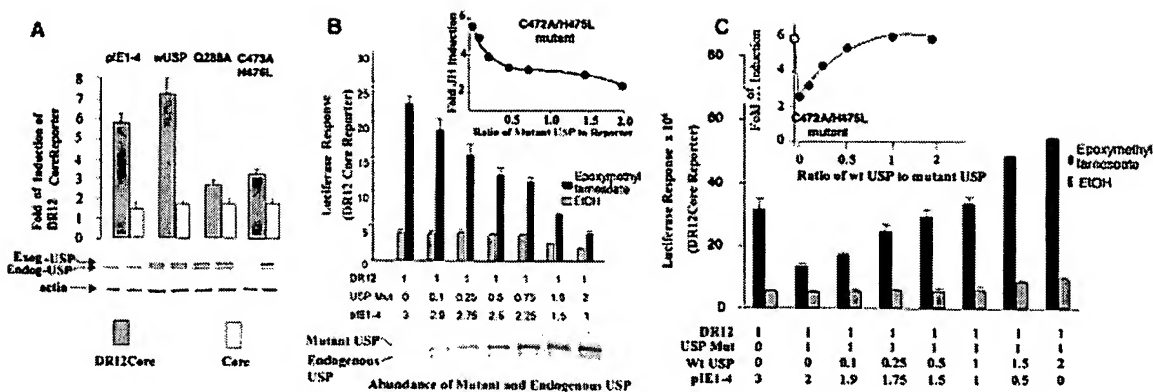
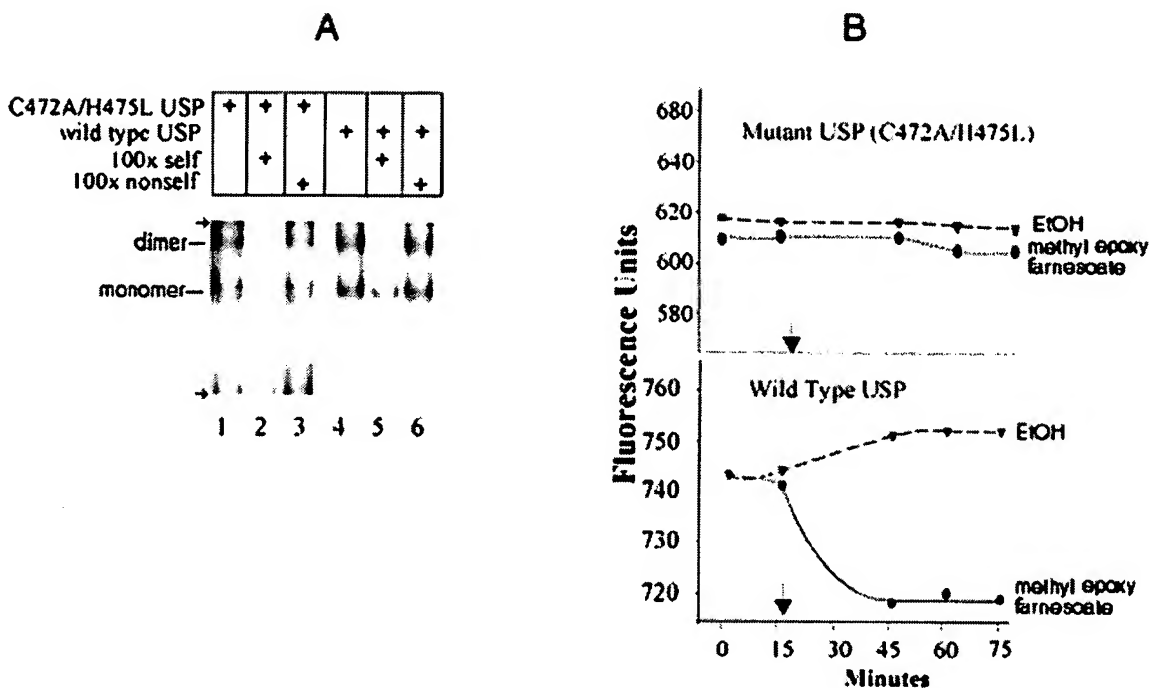
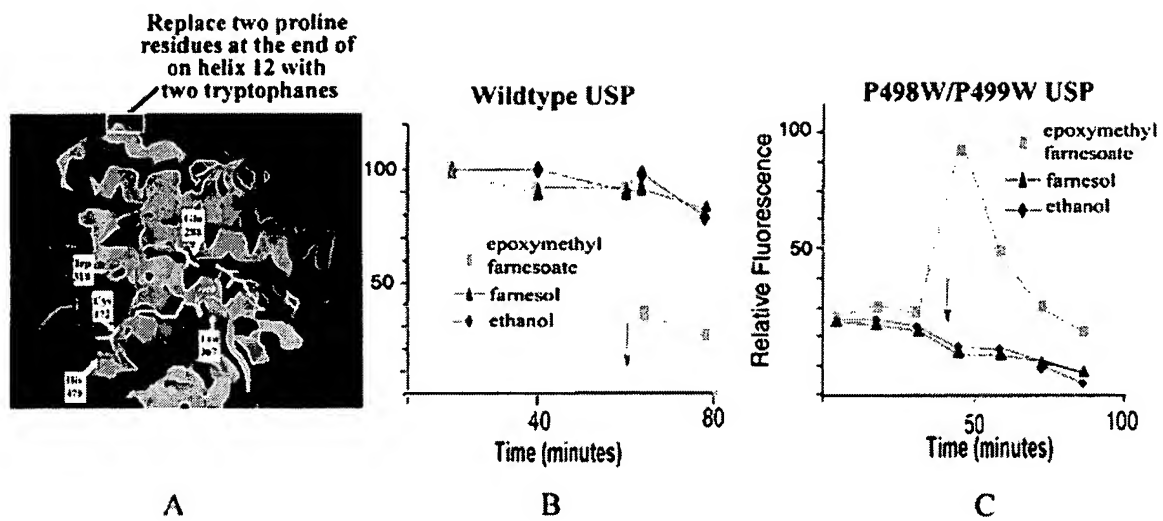


Figure 5



**Figure 6**



## Figure 7

SEQ ID NO: 1: Wild type *Drosophila* USP cDNA

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gaaagtctgg cattctttgt
61  ttgttggtaa aaagcgcaat tgtttgagg cgagcgaata
aagtgcgctg ctccatcggc
121 tcaagattat gtaaatgcag caacgacccc accaacaacg
aaactgcaac ctgctccact
181 tggcccaacg gaccaatagc ggacggacgg acacggtggc
gttggaagaa tgaaacccca
241 acagagaggc gaaagcgagc caagacacac cacatacaca
cgaagagaac gagcaagaag
301 aaaccggtag gcgaggagg cgctgcccc agttcctcca
atatacccag caccacatca
361 caagcccagg atggacaact gcgaccagga cgccagcttt
cggctgagcc acatcaagga
421 ggaggtcaag ccggacatct cgcagctgaa cgacagcaac
aacagcagct tttcgcccaa
481 ggccgagagt cccgtgccct tcatgcaggc catgtccatg
gtccacgtgc tgcccggctc
541 caactccgcc agtccaaca acaacagcgc tggagatgcc
caaatggcgc aggcgcccaa
601 ttcgggtgga ggctctgccg ccgctgcagt ccagcagcag
tatccgcta accatccgct
661 gagcggcagc aagcacctct gctctatttg cggggatcgg
gccagtggca agcactacgg
721 cgtgtacagc tgtgagggt gcaagggtt ctttaaacgc
acagtgcgca aggatctcac
781 atacgcttgc agggagaacc gcaactgcat catagacaag
cggcagagga accgctgcca
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841 gtactgccgc taccagaagt gcctaacctg cggcatgaag  
cgcgaaagcgg tccaggagga

901 gcgtcaacgc ggcgcccgc atgcggcggg taggctcagc  
gccagcggag gcggcagtag

961 cgggtccaggt tcggtaggcg gatccagctc tcaaggcggg  
ggaggaggag gcggcgtttc

1021 tggcgggaatg ggcagcggca acggttctga tgacttcatg  
accaatagcg tgtccaggga

1081 tttctcgatc gagcgcatca tagaggccga gcagcgagcg  
gagaccaat gcggcgatcg

1141 tgcactgacg ttcttgccgc ttggtccta ttccacagtc  
cagccggact acaaggggtgc

1201 cgtgtcggcc ctgtgccaa tggtcaaaa acagctcttc  
cagatggctg aatacgcgcg

1261 catgatgccg cactttgccc aggtgccgct ggacgaccag  
gtgattctgc tgaaagccgc

1321 ttggatcgag ctgctcattg cgaacgtggc ctggtgcagc  
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1381 cggtgccggc ggcgggggcg gtggactagg ccacgatggc  
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1441 gggccttcag cccagcagc tgttcctcaa ccagagcttc  
tcgtaccatc gcaacagtgc

1501 gatcaaagcc ggtgtgtcag ccattcttga ccgcatattg  
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1561 gaagcggctg aatctcgacc gacgcgagct gtcttgcttg  
aaggccatca tactgtacaa

1621 cccggacata cgcgggatca agagccgggc ggagatcgag  
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1981 cccttatacc ctacaaaagc cccctaatat tacgcaaat  
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2041 tttttttatt acctaattt attattatta ttgatataga  
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2101 agattagcct cctcgacgtt tatgtcccag taaacgaaaa  
acaaacaaaa tccaaaactt

2161 gaaaagaaca caaaacacga acgagaaaat gcacacaagc  
aaagtaaaag taaaagttaa

2221 actaaagcta aacgagtaaa gatattaaaa taacggtaa  
aattaatgca tagttatgat

2281 ctacagacgt atgtaaacat acaaattcag cataaatata  
tatgtcagca ggcgcatatc

2341 tgcggtgctg gccccgttct aaatcaattg taattacttt  
ttaacataaaa tttacccaaa

2401 acgttatcaa ttagatgcga gatacaaaaa tcaccgacga  
aaaccaacaa aatatatcta

2461 tgtataaaaa atataaactg cataacaa

## Figure 8

SEQ ID NO: 2 Wild Type Drosophila USP Amino Acid Sequence

MDNCDQDASF RLSHIKEEVK PDISQLNDSN NSSFSPKAES PVPFMQAMSM 50  
VHVLPGSNSA SSNNNSAGDA QMAQAPNSAG GSAAAVQQQ YPPNHPLSGS 100  
KHLCSICGDR ASGKHYGVYS CEGCKGFFKR TVRKDLTYAC RENRNCIIDK 150  
RQRNRCQYCR YQKCLTCGMK REAVQEERQR GARNAAGRLS ASGGGSSGPG 200  
SVGGSSSQGG GGGGGVSGGM GSGNGSDDFM TNSVSRDFSI ERIIEAEQRA 250  
ETQCGDRALT FLRVGPYSTV QPDYKGAVSA LCQVVNKQLF QMVEYARMMP 300  
HFAQVPLDDQ VILLKAAWIE LLIANVAWCS IVSLDDGGAG GGGGGLGHDG 350  
SFERRSPGLQ PQQLFLNQSF SYHRNSAIKA GVSAIFDRIL SELSVKMKRL 400  
NLDRRELSCL KAIILYNPDI RGIKSRAEIE MCREKVYACL DEHCRLEHPG 450  
DDGRFAQLLL RLPALRSISL KCQDHLFLFR ITSDRPLEEL FLEQLEAPPP 500  
PGLAMKLE 508



## Figure 9: Sequences of several core promoters and Misc. Sequences

AJHSP1 (SEQ ID NO: 3)

GACCAATTAA TAGGTGACCT GCGATAAAAA TTACCTATAA ATATGTGATG TTGCTGGATT G

BJHSP1 (SEQ ID NO: 4)

CGAGAGGTTA TCGCCCAATA CAACAACAAT GATAATGACG TGCAAGCAGA TAATAGTGAA  
AAAATAACAG ATACTAGAGT ATAAAAAGGG GATGCTGGGA GTGGACAGGC ACAGTCGTGG  
TGTGGCAGCA AACA

BJHSP2 (SEQ ID NO: 5)

TCAGTATAAA AAGGGGTGCA TTCTCGGTAA GAGTACAGTT GAACTCACAT CGAGTTAACT  
CCACGATGA

ARYL (SEQ ID NO: 6)

TAAGGGTAGT ATAAAAAGGC GATCAATCAT TGACAAACAG TTTGCAGCAG GCTGTGGGAA CGA

EcRE (SEQ ID NO: 7)

GAGGTCAATGACCTC

DR Forward: (SEQ ID NO: 8)

5'-AGGTCAN<sub>x</sub>AGGTCA-3'

DR reverse: (SEQ ID NO: 9)

5'-TGACCTN<sub>x</sub>TGACCT-3'

SEQ ID NO: 10

AGGTCANAGGTCA

SEQ ID NO: 11

AGGTCANAGGTCAAGGTCANAGGTCA

SEQ ID NO: 12

AGGTCANAGGTCATGACCTNTGACCT

SEQ ID NO: 13

5'-CAAGGTCAAAGGTCAG-3'

SEQ ID NO: 14

5'-CAAGGTCAAGAAAGGTCAG-3'

SEQ ID NO: 15

5'-CAAGGTCAAGAAGGCCAAAGAGGTCAG-3'

SEQ ID NO: 16

CAAGGTCANNNNNNNNNNNNAGGTCAG

SEQ ID NO: 17

GGTACCGAGCTCTTACGCGTGCTAGCCCGGGCTCGA

SEQ ID NO: 18

CGGTATTTACACCGCAcATGGTGCACTCTCAGTACAATC

SEQ ID NO: 19

GTGCCAAGTGGTCAACAAAgcGCTCTTCCAGATGGTCGAATAC

SEQ ID NO: 20

GCGATCGATCAGCCTGAAGgcCCAGGATCtCCTGTTCTCTTCCGCATTAC

SEQ ID NO: 21

CTTTCTCGAGCAGCTGGAGGCGtgGtgGCCACCCGGCCTGGCGATGAAACT

JHE Core SEQ ID NO: 22

CGTGTCGGTGCCGCTGCTGGGGTCGCGCGCCACATATATGCGTGCGAGGAGCGCGCGCCGGCAGTGCGGCG  
TGCGACCCCGACCAGACA